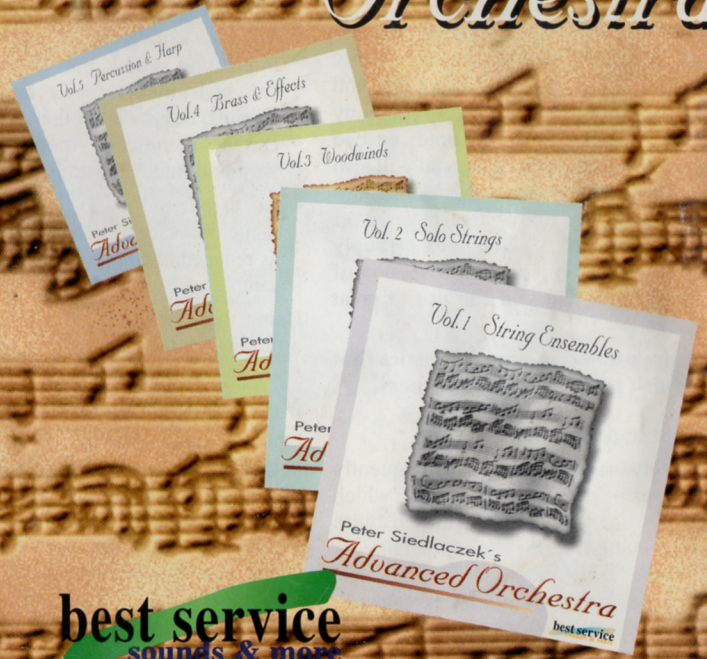
Peter Siedlaczek's Advanced Orchestra



best service
sounds & more

Dear friends,

welcome to the circle of "Advanced Orchestra" users. Following the releases of "Classical Choir" and "Orchestral Colours", I am happy to be able to present a new concept for a very complex and yet compact sound library. It consists of 5 CD-ROMs or audio CDs and contains exactly 5,455 samples (!) of all instruments and instrument groups of a large symphony orchestra. Besides sustained notes on two dynamic levels and staccatos, you will also find a series of new and very useful samples which to my knowledge have never been released before. You will certainly soon realize that you are in possession of a powerful tool that you can use to great advantage.

There are numerous characteristics that distinguish this library from others.

The most important are:

- a variety of important and frequently used phrasings and articulations, which cannot be satisfactorily imitated with "normal" samples, for example half- or whole-tone trills, various grace notes, runs, arpeggios, tremolos, crescendi, glissandi and other events playable in any key or pitch.

- all of the staccato notes and some other events are sampled **twice**. If a quick repetition of the same note is needed, you can use them alternately.

  The result will be much more natural, and not so "mechanical".

- you will discover a small extra on Vol.4: a collection of unconventional, interesting sounds played on the classical instruments: scratches, whistles, thumps, buzzes and other effects, which can be technically modified in many ways, adding a new color to your music.

- the user-friendly CD-ROMs contain i.a. numerous, carefully looped events, as well as reduced, memory-saving 22 kHz mono samples very suitable for layouting.

Using these building blocks, you can now arrange countless, complex and amazingly realistic sounding structures.

More realistic than ever before!

Optimal tonal quality was achieved by using first-class microphones and careful placement, excellent studio acoustics and the professionalism of the participating musicians - members of internationally acclaimed symphony orchestras, who achieve the highest tonal results with their master class instruments.

The use of this sound material is not limited to classical music. It can be utilized successfully for all genres. A short sketch demonstrating the potential of this library - titled **„A Day in a Philharmonic Hall“** - can be heard on each disc. I would like to point out, that this demonstration consists solely of samples from this library (with the exception of the drum loop), and that none of the passages were recorded live in any way.

The strength of these new sounds lies not only in their use in "natural" or "real sounding" structures and arrangements. Especially the complex phrasings and articulations, such as runs, trills or glissandi, are immanently suitable for all types of distortion and unorthodox treatment; your imagination is freed for all types of experiments.

For those with little experience with acoustic instruments, this booklet presents definitions of terms, as well as some comments and tips on classical instruments and orchestration.

I wish you many new ideas, and a lot of success and enjoyment with these new sounds!

Peter Siedlaczek

This library is the current result of constant research and additions. New articulations and not yet developed technical possibilities for example samples that allow an especially realistic legato phrasing or fast passages) will continue to be released on CD-ROMs and audio CDs as supplements to the existing collection.

Thanks for their help & support to:

Andreas Lucas, Marko Bussian & Dirk Busshardt at FunDeMental Music, Marcin Pospieszalski, Andrzej Skoczyński, Witold Osiński, Staszek Skoczyński, Faculty of Sound Engineering in Warsaw, Robert Lyng, Tony Pinell, Turgay Audio, Ewa Olejnik & Kasia Rakowiecka at Sonorama, Lothar Krell at Klangwelt Studio, Tony Clark, Ken Taylor, Joe Whitney, Manfred Honetschläger, my wife Claudia, the team of best service and Music Shop in Munich, as well as to Digidesign; Your ProTools is a great, reliable, fast and extremely convenient system! I would not have been able to complete this project without it...

Special thanks go to all of the musician who participated in the project. You are irreplaceable!

Recorded at Studio S1,
F. Chopin Academy of Music, Warsaw;

Musical consulting: Marcin Pospieszalski
Conductors: Piotr Borkowski,
Roman Rewakowicz

Recording engineer: Witold Osiński

„The Surprise“ composed and arranged by Andreas Lucas, FunDeMental Music, Frankfurt/M.

Additional sound engineers:
Marko Bussian & Dirk Busshardt
Digital audio editing: Sonorama, Warsaw

This sound material was edited, prepared and optimized using Digidesign's ProTools system.

Produced by Peter Siedlaczek

Co-produced by Klaus Kandler

Definition of some musical terms

Arpeggio
here: the individual notes of a chord are played one after the other

Broken chord
here: a chord is divided in two parts, which are played alternately (typical for strings)

Col legno
the strings are struck with the back of the bow

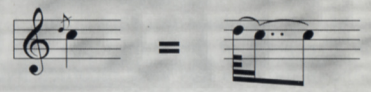
Con sordino
muted

Crescendo
becoming gradually louder

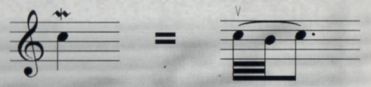
Flutter tongue ("frullato")
an articulation achieved by the vibration of the tongue

Glissando
sliding; infinitely variable change of pitch

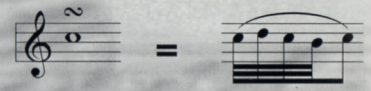
Grace note



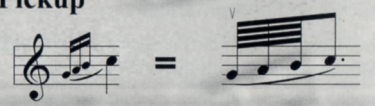
Mordent



Turn



Pickup



Pizzicato
plucking the strings with the fingers

Secco
here: the individual notes of a chord are played simultaneously

Short detaché
here: staccato; a short basic bow stoke used per note

Staccato
short

Spiccato
the bow bouncing off the string

Tremolo
a rapid back-and-forth movement of the bow playing a specific note

Trill
quickly playing two notes repeatedly one after the other

ff	(fortissimo)	very loud
f	(forte)	loud
mf	(mezzoforte)	moderately loud
p	(piano)	soft
pp	(pianissimo)	very soft

Remarks on the technical characteristics of the samples.

- The pitch of the samples is indicated by the MIDI Note Number. As such middle A is notated as A3.
- All of the samples were recorded as naturally, without any artificial manipulation, as possible. Because an acoustic, "living" instrument is not a synthesizer, there are two factors that substantially influence the sound:
  - Air, bow, and other noises
  - Changes in the timbre due to pitch. In certain registers, this is caused by switching strings on string instruments, or is due to register breaks on woodwinds.

  These factors are not only completely normal, but also are an integral part of a natural, lively sound.
  Trying to eliminate them would lead to very synthetic sounding results.
- It is also possible to use small parts of complex samples, e.g. just three notes from a run, a single grace note, which can be used in combination with another sample, etc.

- This library also contains **a completely new category of samples, named "solo legato"**, which have been initially tested on the cello and viola. The attack of these samples include the strike of the bow, which is created only when played legato when the bow changes direction. Audio CD users should edit the samples, so that they are played from the point at which the change of direction of the bow becomes audible. If these samples are played tied one after the other with circa 30 - 50 ms crossfade (important!), a very realistic sounding legato phrasing can be created, which is not possible using only the conventional samples with heavily bowed attack. Following the same principle, this phrasing can also be achieved with the violas, if the sustained notes are played beginning with the first bow change.

  We are currently testing this new sample category with all of the other string instruments and string ensembles.

  The results will be released as a supplement to this library.

The following concerns CD-ROM users only:

- **The standard tuning is 440 Hz.** Although most European classical orchestras tune to at least 443 Hz, we have chosen to use the 440 Hz tuning, as it is more widely used in electronic music.

- An instrument's lowest and highest tones have been limited to those which can actually be played on the instrument, e.g. the "Violin" sound can not be played lower than G2, because G2 is the instrument's deepest tone. Detuning further beyond this natural point usually produces poor "sound prosthetics" and is really not necessary; using another instrument (in our example violas) leads to much better results.

- The starting points of the samples were chosen so that, on the one hand, the natural attacks were not noticeably effected, and on the other hand, that the sound does not start to late. Should the attack seem to be too long, please remember, that it is substantially longer with natural instruments than it is with synthetic sounds. The entire character of an instrument is contained in this attack, and if it is radically shortened, it is often not even possible to identify an instrument.

  It is important to note, that the original, full length of the samples have been preserved, so that each user can edit the start point to his own needs.

The following concerns audio-CD users only:

- **The instruments on the audio CD are tuned to 443 Hz**, as many European classical orchestras tune to that reference. However, because the musicians played without a specific musical reference and for technical reasons no tonal reference was given, the intonation of some sounds may vary slightly from the „mathematical", perfectly tempered pitch. It is recommended therefore to check the pitch of the individual samples and, if necessarily, correct them in the sampler.

- On the one hand, samples of acoustic instruments recorded in a dry room would be unacceptable. On the other hand, recordings in a concert hall would contain a large amount of reverb and ambiance, making them sound too indirect for some purposes.
  We have tried to obtain an optimal ambience for this library.

  Because of the resulted close miking, the samples of the solo instruments (especially such non-symmetrical ones as the flute, French horn, bassoon, etc.) should not be treated as stereo because both (close) microphones produced two different mono sounds rather than a s tereo signal. If you, nevertheless, listen to these sounds in stereo, you will notice - depending on the pitch - a displacement of the frequencies, which, due to the above-mentioned reasons, is perfectly normal.

  Audio CD users have the possibility of choosing the most suitable sound (channel) for their purposes.
  This choice has already been made for the CD-ROM users.

- Due to the limited storage capacity of a single CD and the large amount of woodwind samples, **the clarinet samples can be found on Vol.4 - Brass,** and not on Vol.2 - Woodwinds.
  For the same reason **the Effects can be found on Vol.2 - Solo Strings** and not on Vol.4 - Brass".

On the subject of "timing"

Many of the samples contained in this library, e.g. ornamentations, runs, glissandi, trills, have their own timing. Nevertheless, even when the tempo of the original sample coincidentally coincides with your needs, the necessary transposition of the samples - whether a half tone up or down, depending on the pitch - creates a deviation in tempo in any case of circa +/-6%.

The quickest and easiest way of adapting the samples to your needs is by using time compression software, which is also very well suited for special effects (for example - try glissandi or runs played at three times their normal speed forwards and backwards).

By the way, because an increase in the tempo using time compression generally leads to better results than does a decrease in the tempo, most of the samples, such as runs, grace notes, etc., were purposely not recorded at their fastest possible tempi.

Time compression is a very complex procedure, which only a few software programs can adequately handle. In my opinion, Mark of the Unicorn's Digital Performer 1.7 produces the best results. It works with Digidesign´s ProTools, Audiomedia or Sound Tools. The quality of the time compression, expansion and harmonizing is incredible. Moreover, it is a high quality digital recording/edtiting tool and professional sequencer with extremely powerful features, including full support for ProTools III and complete TDM integration.
(Demos are available at www.motu.com).

Peter Siedlaczek´s Advanced Orchestra

General remarks on the use of the Advanced Orchestra sounds for orchestral arrangements.

1. It is advisable to use an acoustic instrument in those registers in which it sounds best. Like visual objects, which can be "photogenic", I would suggest using the term "phonogenic" for sounds. A classical instrument's "phonogenic" register is, for example, very often its middle range, where the instrument's full, powerful and dynamic sound is developed. A special mixture of tonal colors or a certain articulation or phrasing can also be "phonogenic". The optimal use of these characteristics is an integral part of the art of orchestration.
2. Try to achieve your desired sound by effectively employing instrumentation and voicing, before resorting to artificial, electronic tools. You will never be able to reproduce the radiant high tones of an optimally voiced horn section or the woolly warmth of a well arranged, rich string pad with an equalizer.
3. Forget the usual keyboard playing techniques (certain typical runs, and other articulations and specific phrasings). Treat any given sound like an individual instrument, and try to play and phrase lines just as it would be done on that instrument.
4. For a more human feeling, record in real time, if possible, avoiding "mathematically" perfect sequencing.
5. Avoid exceeding two vertical harmony parts with the same instrument.

Basic information about classical instruments and orchestration

(For beginners, but you never know...)

The following does not pretend to be a handbook. It is merely a brief explanation of the instruments and some of the fundamental problems of orchestration, which may be of interest for beginners - the sampler users, who have no experience with acoustic instruments.

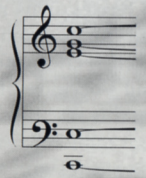
String Section

The ranges of the string instruments - if played by professionals - are typically G2 - C6 (violin), C2 - C5 (viola), C1 - A4 (cello) and E0 - B2 (basses); soloists can play even higher.
The typical string ensemble of a full symphony orchestra consists of 14 first violins, 12 second violins, 10 violas, 8 celli and 6 basses. This may not appear very essential for a sample-user, as the volume of each section can be controlled separately; but - because of its tonal richness - exactly this size has been sampled. Thanks to their numerous articulations and phrasings, the strings are especially "phonogenic" in melodic runs, fast passages and especially harmonies.

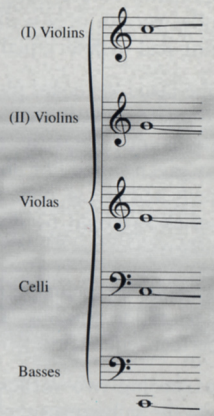
The string section can be voiced in many different ways. If a melody and a sustained harmony is desired, for example, the common technique is three part harmonies with the violas, celli and basses, while the violins play the melody in octaves or in unison. Another alternative is to play the melody with violins and violas doubling or playing it an octave lower, while divided cellos and basses play the pad.

Generally speaking, the first violins usually play the melody, violas play the middle harmony, or the harmony and melody an octave lower. Celli play the fourth part harmony, or both the third and fourth. The basses often double the lowest celli one octave lower. If you want a mellow, warm sound for a melody, the celli will do the job perfectly.

This is what a C-major chord may look like:



Many inexperienced keyboard players would probably play the upper three notes with the violin sound and the lowest two notes with the basses, or they would use a uniform sound called "strings" for the whole pad. However, if they were to play it like this:



the result would sound much better!

(In real orchestral scores Viola parts are written in the alto clef; because we are dealing with a keyboard score I have used the treble clef to simplify matters.)

Woodwinds

The woodwinds are: **flute, piccolo, oboe, English horn, clarinet, bassoon, bass clarinet, and contrabassoon.**

The Flute

(range C3 - C6) - with its light and graceful character - is especially suited to melodies and fast passages. The flute's softer, warmer sound in its lower registers stands in sharp contrast to the shrill and very loud tones in its upper registers. In classical orchestral arrangements the flute often plays the melody line of the first violins. The sounds produced by the flute in unison or octaves with the oboe, clarinet, bassoon or English horn (in duo or trio) are especially "phonogenic". Very interesting timbre can also be created with two or three flutes in unison or octaves.

The Piccolo

(range: D4 - A6), with its powerful, piercing sound, extends the flute's range in the high register, and is frequently used to double violins and flutes, or to provide a "military" or "childlike" character. It can be played very fast. For lower notes it is better to use a flute.

The Alto Flute

is the larger cousin to the flute and sounds a fifth lower. The alto flute's especially warm sound is at its best in the lower register *(from G2 to C4)*.

The Oboe

(range: A#2 - G5) is well suited for long melodic passages. The lower, somewhat thick and coarse sounding register, in which soft notes can hardly be played, is not used for soli as often as the noble middle and upper registers. Although it can not be played as fast as the flute or clarinet, the oboe's flexible turns and grace notes are particularly "phonogenic". Its sound can be combined very well with flutes, English horns, clarinets, and bassoons.

The English horn

(range: E2 - A#4) is the alto version of the oboe.

The Clarinet

(range: D2 - G5) - this expressive instrument, with its bright, clear sound, can be particularly well blended with many other instruments, and is able to play the softest pianissimo obtainable from wind instruments. Its dynamic range, from pianissimo to fortissimo is impressive. The clarinet is most "phonogenic" in fast, brilliant passages.

The Bass Clarinet

(range: A#0 - A#3) has similar characteristics to the clarinet, but can not be played as fast. Its rich and full sounding lower register is the most valuable. It is not frequently used for melodies, but is often combined with bassoons, contrabassoons or celli, adding extra richness to their sounds.

The Bassoon

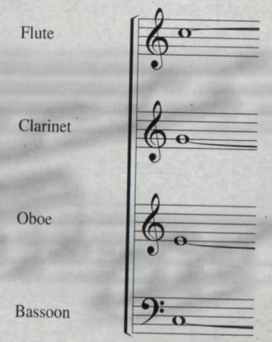
(range: A#0 - A#3 or higher) is able to play rapid skips and light staccato notes with ease. Its powerful bottom end can compete even with trombones. It can handle bass lines, blend perfectly with the horn section, or add intensity if doubling celli or the entire string section.

The Contrabassoon

(range: C0 - D#2 or higher), as the lowest woodwind, is frequently used to double the string basses. It can also be used very well as a foundation for a brass section, but can also be employed for a dark sounding melody.

In terms of their ranges - from the highest to the lowest - **the woodwinds fall into the following hierarchy: flutes, oboes, english horns, clarinets, bassoons, bass clarinets and contrabassoons.**

This hierarchy should not be forgotten when you are orchestrating; here is an example of classical orchestration of a simple C major chord:



Generally speaking, the flutes play the highest notes of a harmony; the clarinets, English horn and oboes play the middle notes; bassoon, bass clarinet and contrabassoons play the lowest notes.

Brass

The four basic brass instruments are the **trumpet, trombone, french horn and the tuba.**

The Trumpet

(professional range: E2 - C5) sounds best in its higher registers; notes below C3 are often avoided. Its bright, "fanfare"-like timbre is difficult to blend with other instruments. Three trumpets, which sound especially "phonogenic" when emphasizing or supporting a powerful tutti, are often used when arranging for an orchestra. They are also very suitable for melodies - in unison or in octaves.
In passages for several voices they function the best in close harmony.

The Piccolo Trumpet

(range: C3 - D5) belongs to the large trumpet family. It is perfect for soli, and is very "phonogenic" in fast passages. It was frequently used in Baroque music, and is known as the "Bach trumpet" in Europe.

The Trombone

- the most common is the tenor trombone. Its *regular range is E1 to B3,* but - using so-called "pedal tones" - the range can be extended down to G0. It is a very powerful instrument with an impressive dynamic range, which allows for very effective crescendi. Another of its typical effects - determined by its construction - is the glissando. The trombone is well suited for melodies - in unison or in octaves - as well as for pads, and is usually voiced in close harmony. Like the trumpets, trombones function very well in Tutti. Three trombones are usually employed in orchestral arrangements.

The French Horn

(typical range: F1 - C4) is perfect for blending, especially with woodwinds.
The various phrasings and articulations produce very different timbre - from warm, dark sounds to radiant, incredibly strong, metallic tones. The french horn's dynamic range is enormous: it is capable of producing the softest pianissimo as well as the most powerful fff. In groups of four horns they often play in unison, but sound very good in harmony or in octaves. Their effective glissandi are especially "phonogenic". Horns are often used in film music because of their tonal diversity.

The Tuba family

consists of 6 different tubas. The B tuba, which is included in this library, has a *range from D#0 to D#3.* Tubas are used not only for comic effect. They can also

produce very interesting, charming timbre, if used for melodies in their middle or upper registers. They blend very well with trombones, bassoons and basses.

Other instruments

The Harp

(range: B0 - G6) is usually used for chromatic and dynamic effects. It blends very well with strings (especially pizzicato) and woodwinds. The harp's typical arpeggios and glissandi are especially "phonogenic".

The Timpani

are kettle-shape, tuned drums used for melodic, rhythmic or harmonic emphasis. Their effective rolls or staccato notes are very suitable for creating tension or supporting crescendi or diminuendi.

The symphonic Bass Drum

has a diameter of 30" (75 cm) and is 16" (40 cm) in depth. It has indefinite pitch, and is used for dynamic and coloristic effects, combined, for example, with basses or other percussion instruments. Bass drum rolls create an ominous, "phono genic" thunder-like sound.

◆◆◆

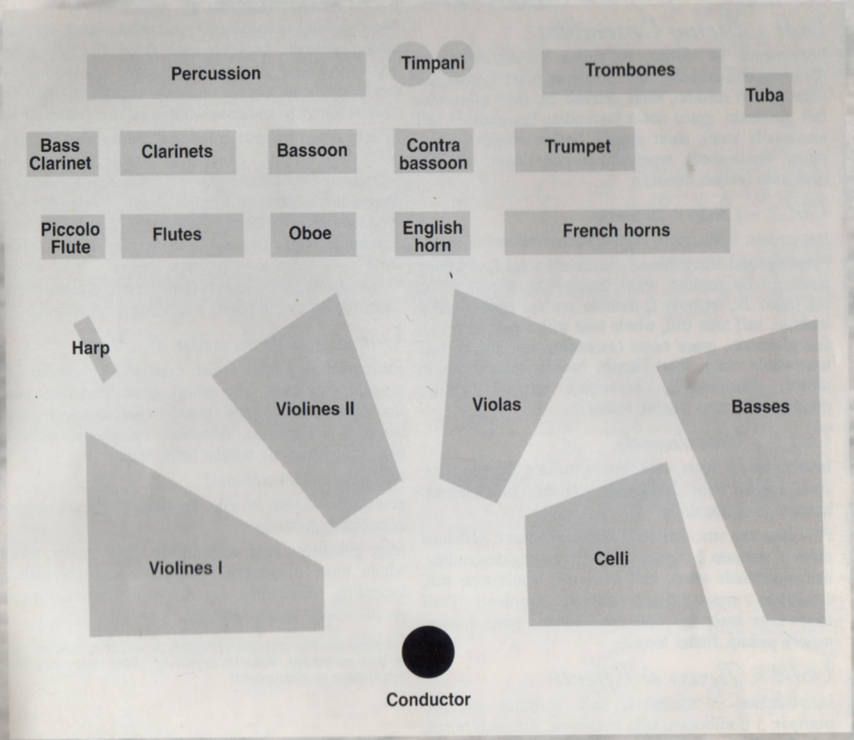
Even when working with "only" samples and no real orchestra, orchestration can be an exciting adventure.
"Orchestration is composition", as Rimsky-Korsakov said. You should not, however, be afraid of any allegedly rigid rules or "old-fashioned" thinking.
Regardless of how unconventionally or "modern" you approach arrangement, knowledge of the rules of classical orchestration can serve as a platform, a base in the infinite universe of music. From this base, thanks to your creativity and wealth of ideas, you can take journeys in every musical direction, while retaining a point of reference, a basis, to which you can always return.

The information about classical instruments given above should serve as a stimulus for those with little orchestral experience, but who would like to try out their abilities in this area.

Should you ever reach for a book about orchestration, I would consider this a great success. You will be surprised what kind of "magic" you can achieve with this library.

Peter Siedlaczek

Advanced Orchestra



Peter Siedlaczek's Advanced Orchestra Library

Vol1 - String Ensembles

Instruments: 14 violins, 10 violas, 8 celli, 6 basses.
Phrasings and articulations*: sustained notes f, sustained notes p, con sordino, short detaché 2x, slow glissando, fast glissando, grace notes (ascending/descending, half tone/whole tone), short chords, broken chords (major, minor, diminished), arpeggios (major, minor, diminished), runs (major, minor).

Vol.2 - Solo Strings

Instruments: violin, viola, cello & unconventional sounds

Phrasings and articulations*: sustained notes f, sustained notes p, con sordino, short detaché 2x, pizzicato 2x, col legno 2x, tremolo f, tremolo pp, crescendo, cresc. tremolo, half tone trill, whole tone trill, slow glissando, fast glissando, grace notes (ascending/descending, half tone/whole tone), short chords, broken chords (major, minor, diminished), arpeggios (major, minor, diminished), runs (major, minor).

Vol.3 - Woodwinds

Instruments: 3 flutes, solo flute, alto flute, piccolo flute, oboe, english horn, 3 clarinets, clarinet, bass clarinet, bassoon, contrabassoon.

Phrasings and articulations*: sustained notes f, sustained notes p, staccato 2x, grace notes (ascending/descending, half tone/whole tone), half tone trill, whole tone trill, crescendo, runs (major, minor), mordents (half tone/whole tone, up- and downwards), turns (minor, major), pickup, flutter tongue.

Vol.4 - Brass & Effects

Instruments: 3 trumpets, solo trumpet, piccolo trumpet, 3 trombones, solo trombone, 4 french horns, solo french horn, tuba.

Phrasings and articulations*: sustained notes f, sustained notes p, staccato 2x, grace notes (ascending/descending, half tone/whole tone), half tone trill, whole tone trill, crescendo, runs (major, minor), mordents (half tone / whole tone, up- and downwards), pickup, flutter tongue.

Effects & unconventional sounds (examples): short & percussive events, clusters & longer events, short scratches, "Shock Treatment", "Unsingable Melodies for Everyone", "Blowing for the Wind", "An Army of Woodworms", "Dreaming Monster", "The Mosquito, or a Summer Night Drama", "At the Dentist", "Creaking Door", "Contrabassoon gets angry," "Car Race", "An extremely silly Sound" (tuned trumpet mouthpiece), "A breath of a wind player" and many other events.

Vol. 5 - Percussion & Harp

Instruments: cymbals a due, cymbal 24", cymbal 18", timpani, gran cassa (bass drum), snare drum, large tam - tam (gong), thai gongs (tuned), chinese opera gongs, triangles, vibraphone, marimba, xylophone, orchestra bells (glockenspiel), tubular bells, harp.

Phrasings and articulations*:

percussion: single strokes, tremolo, long/medium/short crescendo, glissando;

harp: glissandi - long, midium and short / major, minor, whole tone, diminished, pentatonic and chromatic / ascending, descending, up & down; chords-arpeggio, secco / major, minor / mf, pp.

* These are the complete phrasings and articulations used in this particular Volume; however, they may vary from instrument to instrument!

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artwork: richard aicher - produce - münchen